

REMARKS/ARGUMENTS

Reconsideration of this application is requested. Claims 167 and 177-179 will be active in the application subsequent to entry of this Amendment.

Discussion of the amendments to the claims and new claims

Claim 167 as previously drafted was directed to a biocompatible silicon product, comprising porous silicon that had been heated with an oxidizing agent, for use in delivering a drug. Claim 167 has been amended so that it now relates to a non-tissue compatible silicon implant for use in delivering an essential element (namely phosphorus), the element being present at between 1 and 90 atomic percent, at a depth from the implant surface of between 0.35 and 1000 microns.

There are two reasons for this amendment.

The first is the Examiner comments relating to the sufficiency of the disclosure with regard to the previous version of claim 167. As mentioned, previous claim 167 concerned heating with an oxidation agent. The Examiner states that the application is "enabling for a mesoporous silicon implant which is obtained by heating and oxidizing the impregnate substance". The process to which the Examiner refers is used to obtain high concentrations of essential elements in the body of the porous silicon. Following the Examiner's statement of enablement it was therefore decided to revise so that amended claim 167 is directed to this aspect of the disclosure (please see page 28 to 32 of the PCT application for basis for these changes).

The second reason for the amendment is based on the previous prosecution, during which the USPTO has placed emphasis on the first and second paragraphs of page 14 of WO 97/06101 (for example, the Office Action of October 22, 2002, especially paragraphs 5 and 9). This states that the "impregnation of porous silicon with ... phosphorus ... may promote apatite formation", which is associated with tissue compatibility.

The claim 113, to which these last comments relate, was filed on July 17, 2002, and was directed to tissue compatible silicon (there was also a dependent claim 116 having similar features to that of new claim 167). The reason for the rejection of these claims was the perception of a disclosure of tissue compatibility in WO '101. To avoid a similar objection, new claim 167 specifies that the silicon implant is non-tissue compatible.

Basis for the amendments

The amendment to claim 167 is based on lines 22 to 23 of page 32, and on lines 11 to 12 of page 3, which state that the invention relates to silicon implants, that is both tissue compatible, and non-tissue compatible silicon.

It is also based on line 17, page 6 to line 19, page 7, lines 20 to 25, page 12, lines 1 to 7, page 18, and claim 6 which describe the delivery of essential elements, and which describe the concentrations of such elements. Phosphorus is highlighted as an essential element in Figure 5.

New claim 173 is based on the paragraph at page 5, lines 14 to 25. New claim 174 is based on the paragraph spanning pages 3 and 4 of the published PCT application corresponding to the present application.

Previous claims 167, 172 and 177 are rejected on the basis of WO '101 as being either obvious from it (claim 177) or anticipated by it (claims 167 and 172). To the extent the examiner's concerns may extend to the new and amended claims presented above, both of these rejections are traversed.

Response to prior art-based rejections

WO '101 describes bioactive silicon (page 2, line 33) and the impregnation of porous silicon with phosphorus (page 14, lines 9 to 10). It does not describe a non-biocompatible porous silicon implant having a concentration of phosphorus between 1 and 90 atomic percent at a depth, from the implant surface, between 0.35 and 1000 microns from the implant surface. Accordingly, the above claims are novel.

WO '101 effectively links the presence of phosphorus to tissue compatibility (page 14, lines 9 to 10, paragraph spanning page 16 and 17), and hence would lead the skilled person away from the claimed invention. It follows that new claim 167 is not obvious with regard to the cited prior art.

As claim 167 as above amended is patentable so too are claims 177-179 dependent from it.


Reconsideration and favorable action are solicited.

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Respectfully submitted,

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